

**Beam Transfer to and Injection into LHC,**  
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Transfer of 450 GeV protons from SPS to LHC will be carried out through two new beam transfer lines with a length of about 2.8 km per line. One beam will use the existing SPS west extraction in LSS6 from where a new line will lead to the LHC injection near intersection 2. A new fast extraction facility in SPS LSS4 is needed for the other beam line which will lead to LHC intersection 8. Economy considerations have led to the decision to use classical magnets of compact design. A lot of components will be recuperated from closed-down installations. The injection systems consist of horizontally deflecting Lambertson type septum magnets and vertically deflecting kickers. A careful control of the trajectory and the preservation of the very small emittance during transfer and injection are of key importance. Construction for the transfer lines will start in 1998 to allow first injection tests in 2003. The report describes the layout and optics design and the required performance of the main components.